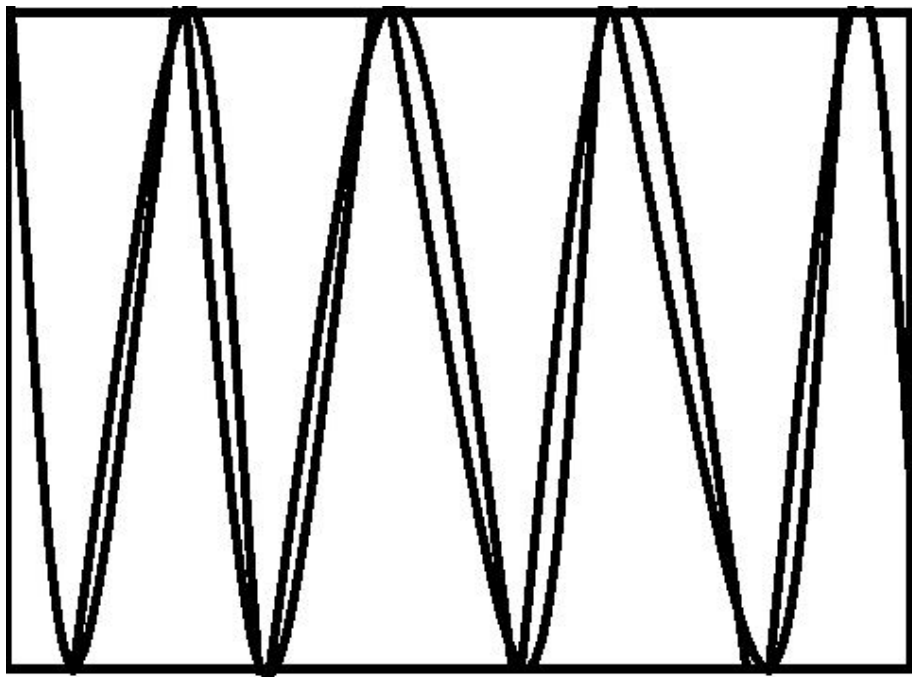


# Lab 1 - Vacuum Cleaning Agent – Artificial Intelligence

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Our environment is partially observable because the agent has no information about the size of the room or where the dirt is located. The environment is deterministic because we always know the position of the agent. The environment is Episodic because the dirt is never located on the same spot. The environment is static because the environment does not change until the agent acts upon it. The environment is continuous because we can measure the movement of the agent. And also the environment is single-agent

The strategy we used is slow but works every time. We start to find the first wall, then we turn and find a corner. Then we slide along the wall until bump into the wall across the room, then we take a U-turn and go back to the other wall and take a U-Turn again, like snake.



°Liek Snek!

## Test Results:

### First Test, no Random:

Steps: 61

Points: 45

### Second Test, Random

Steps: 61

Points: 45

### 3rd Test, Random

Steps: 61

Points: 45

### 4th Test, Random

Steps: 61

Points: 45

### 5th Test, Random\_big

Steps: 170

Points: 17

### 6th Test, Random\_big

Steps: 174

Points: 13

### 7th Test, Random\_big

Steps: 159

Points: 29

## Is the agent Rational?

No, it is mostly constant, and if the room is really big it takes the agent a longer time to clean it.